



Flood impact assessment on the development of Archaia Olympia riparian area in Greece.

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A long list of articles in the literature examines several issues of flood risk management and applications of flood scenarios, taking into consideration the climate changes, as well as decision making tools in flood planning. The present study tries to highlight the conversation concerning flood impacts on the development rate of a riparian area. More specifically, Archaia (Ancient) Olympia watershed was selected as a case study area, since it is considered as a region of special interest and international significance. In addition, Alfeios River, which is the longest river of Peloponnisos Peninsula, passes through the plain of Archaia Olympia.

Flood risk scenarios allow scientists and practitioners to understand the adverse effects of flooding on development activities such as farming, tourism etc. and infrastructures in the area such as road and railway networks, Flokas dam and the hydroelectric power plant, bridges, settlements and other properties. Flood risks cause adverse consequences on the region of Archaia Olympia (Ancient Olympic stadium) and Natura 2000 site area. Furthermore, SWOT analysis was used in order to quantify multicriteria and socio-economic characteristics of the study area. SWOT analysis, as a planning method, indicates the development perspective by identifying the strengths, weaknesses, threads and opportunities. Subsequent steps in the process of intergraded River Management Plan of Archaia Olympia could be derived from SWOT analysis.

The recognition and analysis of hydro-geomorphological influences on riparian development activities can lead to the definition of hazardous and vulnerability zones and special warning equipment. The former information combined with the use of the spatial database for the catchment area of the River Alfeios, which aims to gather multiple watershed data, could serve in preparing the Management Plan of River Basin District 01 where Alfeios R. belongs. Greece has to fulfill the obligation of implementing River Basin Management Plans according to the European Water Framework Directive (WFD-EC 2000/60) and the European Directive on the assessment and management of the flood risk (EC 2007/60).